

**CALIFORNIA STATE UNIVERSITY, SAN MARCOS
SCHOOL OF EDUCATION**

COURSE: EDSL 691: Neuroscience for the Speech-Language Pathologist (3 units)

Fall 2011

Tuesdays 13:00-16:00

Location: FCB 106

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Office Hours: by appt

College of Education Mission Statement

The mission of the College of Education Community is to collaboratively transform public education by preparing thoughtful educators and advancing professional practices. We are committed to diversity, educational equity, and social justice, exemplified through reflective teaching, life-long learning, innovative research and on-going service. Our practices demonstrate a commitment to student-centered education, diversity, collaboration, professionalism, and shared governance. *(Adopted by COE Governance Community, October, 1997).*

COURSE DESCRIPTION

The purpose of the course is to provide students with a general understanding of the neural mechanisms involved in speech, language, hearing and cognitive functions in children and adults. The course will include neuroanatomical and physiological correlates to pathology in these domains of function. Peripheral nervous system structures will be covered, however, the course will primarily focus on central nervous system functions and their role in communication disorders.

Course Prerequisites: Admission to the MA in Education Option in Communicative Sciences and Disorders

Course Objectives and Learning Outcomes

1. Students will be able to describe and explain the gross anatomy and physiology of the central and peripheral nervous systems, specifically the brain and spinal cord
2. Students will be able to describe the electrochemical nature of neural transmission, including the anatomy and physiology of neurons and synapses.
3. Students will be able to describe the neural organization of speech, language, hearing, cognitive and swallowing functions from a sensory and motor perspective.
4. Students will be able to describe the underlying neural mechanisms involved in various communication and swallowing disorders that speech-language pathologists commonly treat.

Required Text:

Webb, W. & Adler, R (2008). *Neurology for the Speech-Language Pathologist*, 5th edition. St. Louis Missouri: Mosby, Inc.

School of Education Attendance Policy

Due to the dynamic and interactive nature of courses in the School of Education, all students are expected to attend all classes and participate actively. At a minimum, students must attend more than 80% of class time, or s/he may not receive a passing grade for the course at the discretion of the instructor. Individual instructors may adopt more stringent attendance requirements. Should the student have extenuating circumstances, s/he should contact the instructor as soon as possible. *(Adopted by the COE Governance Community, December, 1997).*

Students with Disabilities Requiring Reasonable Accommodations

Students with disabilities who require reasonable accommodations must be approved for services by providing appropriate and recent documentation to the Office of Disable Student Services (DSS). This office is located in Craven Hall 4300, and can be contacted by phone at (760) 750-4905, or TTY (760) 750-4909. Students authorized by DSS to receive reasonable accommodations should meet with their instructor during office hours or, in order to ensure confidentiality, in a more private setting.

Course Requirements

1. **Examinations:** Students will take 2 examinations covering information from lectures, readings and class discussion, that evidence gained knowledge in the content area. Please note that your examination will be comprehensive and will include material from the presentations as well (**ASHA Standards III-B, C, D & F; IV-B; V-A; CTC for the Speech-Language Pathology Credential Standards 1-5**). 50 points each for a total of 100 points
2. **Research Paper:** Students will work in teams of two (2) to prepare a research driven paper on the neurological underpinnings of a particular disorder area that they are assigned. The paper should open with an explanation of the disorder and its behavioral manifestations. You can get this information from a journal article or a standard textbook in the field and this should be referenced in APA format in your bibliography, along with the research articles you will review and include. The main body of the paper is a review of the current empirical literature on the neurological correlates to the behavioral profile for that disorder. If the article is specific in detailing out which behaviors are associated with which region, this should be clearly explained in your paper. If the disorder results from deficits in broader neural networks or neurochemical functions, this should be discussed. The paper should include a summary and synthesis of the findings. This means that where the articles have similar findings, you should group the content. You should note any differences in findings across the articles, and explain if possible. As well, if we have covered the disorder in class or it is presented in your textbook, you should incorporate this into your discussion. Finally, you will be expected to conclude with some practical application to our/your work. For example, what is the prognosis for this disorder, what is the typical treatment from a medical and a speech-language pathology standpoint, how amenable is it to treatment, how do we treat it, what is the impact on neurology following treatment, etc.

Each student will be responsible for finding six journal articles related to the disorder to contribute to the final paper (i.e. there should be a total of 12 references), which will include those used to define and describe the disorders, those related to the neurology of the disorders

and those related to the clinical and/or practical implications. At least 75% of the articles (that is a minimum of 8) must be empirical. The final paper should be a joint venture between the two of you – a true collaborative endeavor. **(ASHA Standards III-B, C, D, E & F; IV-B; V-A; CTC Standard 1-5) 50 points total**

3. **Presentation:** You will be required to give a presentation of your paper/findings to the class during the weeks of November 22 and 29th. Your presentation should be **20 minutes** with 5-10 minutes afterwards for questions. You should plan accordingly as you will be expected to fill the time and not go over. As well, you will be expected to pay attention to everyone's presentation as the final exam will include questions over the content in your presentations. **(ASHA Standards III-B, C, D, E & F; IV-B; V-A; CTC Standard 1-5) 20 points**

4. Clinical Case Studies/Pop Quizzes: Students will complete differential diagnosis over 5 case studies and take 5 quizzes as evidence of synthesis of the information learned. These assignments are meant to give you a benchmark for how well you are processing and retaining the material presented.

6. Article Summary – you will be responsible to give a 5-minute presentation on an article from *Neuropsychologia*. It can be on any topic you like that is relevant to our practice. You must select an article that was published within the last 5 years. You will give a brief overview of the aim of the study, the population, task, results and implications for practice. You will turn in your summary, with proper APA reference to the article listed. This is a pass/fail grade.

5. 'Site-of lesion' chart – you will be expected to keep a running chart of the disorders that we discuss that includes the site of lesion to assist you in differential diagnosis. While this assignment will not earn points towards your grade, you should construct it carefully as you will turn it in at the end for a pass/fail grade.

Grading Standards

Consistent with requirements set forth by the School of Education and the Office of Graduate Studies and Research, the minimal acceptable grade for passing a course in the ComDis Program is a B. A review of the student's performance will need to be conducted should s/he earn less than a B in any course. Please note that CSUSM requires graduate students to maintain a cumulative GPA in all coursework towards the MA of 3.0. Should your GPA all below a 3.0, you will be placed on Academic Probation and you will have one semester to bring your GPA back above a 3.0 or you will be disqualified from the program.

Students need to pass all graded assignments with a B or better to demonstrate acquisition of skills and knowledge towards meeting the standards for practice. Students may be offered an opportunity to redo/retake a single assignment at the instructor's discretion. Any assignment requiring a make-up will receive a 20% reduction in possible points for that assignment. If a student receives less than a B on the makeup, or receives less than a B on more than one assignment, the student will be obligated to repeat the course. Please note that CSUSM only allows for two courses to be retaken at the MA level. Should you earn less than a B in more than two courses, you will be disqualified from the program. Make-ups are intended to offer a second opportunity for students to demonstrate competence on important standards so as to avoid academic probation. Make-ups are not intended to improve grades or GPA. Please be advised that each student is expected to operate in a professional manner and present her/his best work the first time. Make-ups need to be scheduled within 1 week of receipt of the 'failed' grade. You have 12 ungraded pass/fail assignments. Should you fail more than 2, you will not pass the course.

Any scholarly, professional writing assignment will be subjected to grading based on the Communicative Sciences and Disorders Graduate Writing Assessment Rubric. All writing assignments

must be submitted in both hard copy AND through the Cougar Courses container. You will be expected to adhere to the Academic Honesty Policy and use APA style referencing in all professional writing.

Letter grade (percentage total points)

A = 93 and above	A- = 90.00-92.99	
B+ = 88.00-89.99	B = 83-87.99	B- = 80-82.99
C+ = 78.00-79.99	C = 73-77.99	C- = 70-72.99
D+ = 68.00-69.99	D = 63-67.99	D- = 60-62.99
F – 59.99 and below		

Assignments graded on the Communicative Sciences and Disorders Graduate Writing Assessment Rubric are graded on a 4 point scale. The conversion is as follows:

- 4 = A = 95 points = exceeds standards
- 3 = B = 85 points = meets standards
- 2 = C = 75 points = approaching, but does not meet standards
- 1 = D = 65 points = fails to meet standards

Students are expected to turn all work in when it is due. Work submitted late, but within one week of the due date will be reduced by one letter grade. Work received over one week late receives no credit. Your work will be graded on both content (detail, logic, synthesis of information, depth of analysis, etc) and mechanics (grammar, syntax, spelling, format, uniformity of citations, etc). You are entering into a professional career that requires mastery of the written language. You will be graded on such.

All University Writing Requirement

Every course at the university must have a writing requirement of at least 2500 words. Your final paper will be used to satisfy this requirements.

CSUSM Academic Honesty Policy

“Students will be expected to adhere to standards of academic honesty and integrity, as outlined in the Student Academic Honesty Policy. All written work and oral presentation assignments must be original work. All ideas/materials that are borrowed from other sources must have appropriate references to the original sources. Any quoted material should give credit to the source and be punctuated with quotation marks.

Students are responsible for honest completion of their work including examinations. There will be no tolerance for infractions. If you believe there has been an infraction by someone in the class, please bring it to the instructor’s attention. The instructor reserves the right to discipline any student for academic dishonesty in accordance with the general rules and regulations of the university. Disciplinary action may include the lowering of grades and/or the assignment of a failing grade for an exam, assignment, or the class as a whole.”

Incidents of Academic Dishonesty will be reported to the Dean of Students. Sanctions at the University level may include suspension or expulsion from the University.

Plagiarism:

As an educator, it is expected that each student will do his/her own work, and contribute equally to group projects and processes. Plagiarism or cheating is unacceptable under any circumstances. If you are in doubt about whether your work is paraphrased or plagiarized see the Plagiarism Prevention for Students website <http://library.csusm.edu/plagiarism/index.html>. If there are questions about academic honesty, please consult the University catalog.

Electronic Communication Protocol:

Electronic correspondence is a part of your professional interactions. If you need to contact the instructor, e-mail is often the easiest way to do so. It is my intention to respond to all received e-mails in a timely manner. Please be reminded that e-mail and on-line discussions are a very specific form of communication, with their own nuances and etiquette. For instance, electronic messages sent in all upper case (or lower case) letters, major typos, or slang, often communicate more than the sender originally intended. With that said, please be mindful of all e-mail and on-line discussion messages you send to your colleagues, to faculty members in the School of Education, or to persons within the greater educational community. All electronic messages should be crafted with professionalism and care.

Things to consider:

- Would I say in person what this electronic message specifically says?
- How could this message be misconstrued?
- Does this message represent my highest self?
- Am I sending this electronic message to avoid a face-to-face conversation?

In addition, if there is ever a concern with an electronic message sent to you, please talk with the author in person in order to correct any confusion.

Tentative Schedule/Course Outline

Date	Topic	Assignment (if any)
Session 1 August 30	Orientation, syllabus and Introduction to Neuroscience	
Session 2 Sept 6	Overview of the Organization of the Nervous System	Chapters 1- 3; Quiz # 1
Session 3 Sept 13	Attendance at Cohort I Presentations for Adult Neurogenic Disorders	
Session 4 Sept 20	Neurons, synapses and cranial nerves	Chapters 4 & 7; Case Study #1
Session 5 Sept 27	Neurosensory Organization of Speech and Hearing	Chapter 5; Quiz #2
Session 6 Oct 4	NO CLASS SESSION	Work on your papers; Case Study # 2
Session 7 Oct 11	Neuromotor control of Speech	Chapter 6; Quiz # 3
Session 8 Oct 18	Pathology of motor systems – motor speech disorders in adults & peds	Chapter 8 & 9; Case Study #3;
Session 9 Oct 25	MIDTERM EXAMINATION	
Session 10 Nov 1	Language and Brain	Chapter 10; Quiz #4
Session 11 Nov 8	Neural underpinnings of language disorders in adults	Chapter 11; Case Study #4
Session 12 Nov 15	Neural underpinnings of language disorders in pediatrics	Chapter 12; Quiz #5
Session 13 Nov 22	Presentations	Papers are Due; Case Study # 5
Session 14 Nov 29	Presentations	
Session 15 Dec 6	FINAL EXAMINATION	
Finals Dec 15	PRAXIS REVIEW and Exam Debrief	'Site-of-lesion' chart due

Selected Relevant Journals in the Field:

Behavioral and cognitive neuroscience reviews
Brain and Language
Cerebrovascular diseases
Cortex
Neuron
The Journal of Neuroscience
Journal of Medical Speech-Language Pathology
Nature Reviews: Neuroscience
Neurology
Neuropsychologia
Neuropsychology Review
Neuroscience
Stroke
The Neuroscientist